



Serving the Nature of Puget Sound

Seattle Public Utilities
Environmental Accomplishments

Seattle Public Utilities creates community value through the stewardship of our natural resources and the consistent delivery of high quality water; solid waste, sewer and drainage services.

Seattle
 Public
Utilities

About Us

Seattle Public Utilities (SPU) is a municipal utility owned directly by the City of Seattle and funded entirely by the rates paid for our services. SPU provides reliable and high-quality drinking water to 1.3 million people in the Puget Sound region, including Seattle residents and the customers of other water districts and cities in King County and parts of Snohomish County. SPU also provides garbage, recycling, sewer and drainage services to customers in the City of Seattle.

Mission

We provide our customers with a reliable water supply and essential sewer, drainage, solid waste and engineering services that safeguard public health, maintain the city's infrastructure and protect, conserve and enhance the region's environmental resources.

Environmental Goal

Protect, sustain, and enhance environmental quality, both locally and regionally.

Results

We demonstrate responsible environmental practices through our everyday business activities.

We manage all projects with a priority concern for the protection, conservation and sustainability of the environment.

- Natural environments are preserved and conserved
- Natural solutions to drainage are emphasized
- Solid waste volume is decreased
- Water is conserved
- Lifecycle costs are considered
- Leadership in Energy and Environmental Design (LEED) standards are applied to key projects

We protect and restore those habitats in the watersheds for which we are responsible with particular emphasis on recovery of salmon and other threatened species.

We encourage the public to be environmentally aware and responsible stewards of our resources through cost-effective recycling, re-use, water conservation and other stewardship practices.

Acknowledgments

Diana Gale

Managing Director, Seattle Public Utilities



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www.cityofseattle.net/util

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Dear Reader:

Seattle Public Utilities (SPU), established in 1997, provides drinking water for 1.3 million people in the Seattle metropolitan area, as well as drainage, sewage and solid waste services to Seattle's residents and businesses. SPU is committed to delivering services of the highest possible quality, enabling our customers to depend on us when they turn on their taps, flush their toilets, or put their garbage and recycling out on the curb.

Today, "high quality services" means something more than it did a decade ago. Our region's natural resources are increasingly under pressure – from rapid growth and urbanization at the local level, to climate change on a global scale. As a tangible consequence of such pressures, two Puget Sound species of fish, chinook salmon and bull trout, were recently listed under the Endangered Species Act. In this changing world, SPU has a fundamental responsibility to minimize the environmental impacts of everything we do, and to search for more sustainable ways of managing natural resources. Acting as a responsible steward is an integral part of achieving the highest quality services for all of our customers.

For SPU, this means not just providing drinking water, but caring for the watershed ecosystems that supply that drinking water and support a myriad of plants and wildlife. It means not merely sending waste to a landfill or a recycling center, but working to close the loop so that someday there is no more "waste." It means not just constructing and maintaining drainage systems that carry storm water away from homes and yards, but finding new ways of managing storm water flow to protect urban creeks and salmon habitat.

This report highlights SPU's efforts to meet these challenges over the past five years. It also expresses our commitment to take on future environmental challenges and opportunities with vigor, determination and creativity. Inside, you will find highlights of our efforts to:

- Manage our water resources with an aggressive water conservation program, watershed management plans, a unique habitat conservation program and new approaches to improving water quality;
- Lead the region with drainage and wastewater initiatives that protect our urban creeks;
- Address our solid waste responsibilities by focusing on waste reduction, recycling, reuse and sustainable systems and practices;
- Protect salmon and other wildlife; and
- Incorporate our vision into our everyday business practices.

SPU's stewardship of our region's natural resources is a strategy not only to maintain the health of ecosystems, but also to ensure the well being, prosperity and quality of life of all citizens – now and in future generations. Seattle Public Utilities is proud of its many environmental achievements. But we know that there is much more to do. The race we run is a marathon, not a sprint, and we are in it for the long run.

Diana Gale
Managing Director, Seattle Public Utilities



Man
did not
weave
the web
of life – he
is merely a
strand in it.
Whatever
he does
to the web,
he does to
himself.

Chief Seattle

WATER



What We Do

Seattle Public Utilities (SPU) delivers an average of 150 million gallons of water each day to 1.3 million people in the Puget Sound region, including customers of 27 wholesale district partners. Most of the water originates from the Cedar and Tolt watersheds in uninhabited areas of the Cascade Mountains. SPU now owns the majority of the land in both of these protected watersheds and manages them for the protection of the water supply, the conservation and restoration of high-quality habitat for fish and wildlife, and the conservation of cultural resources.



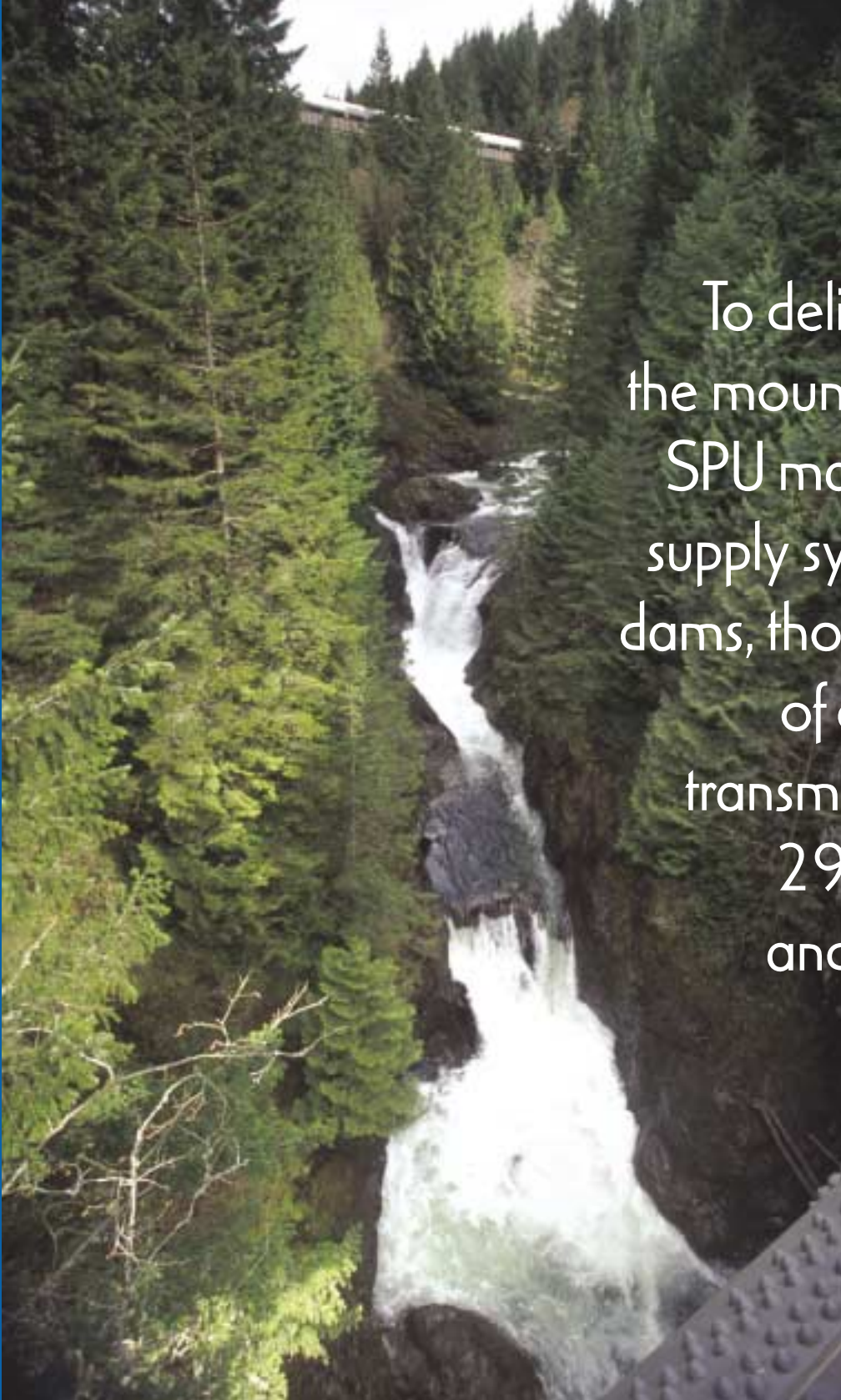
By working together we can develop a comprehensive regional water management strategy that will make the most of our existing resources.

To deliver water from the mountains to the tap, SPU maintains a water supply system of several dams, thousands of miles of distribution and transmission pipelines, 29 pump stations, and 16 reservoirs. In 2001, SPU also completed a new ozonation and filtration plant for the Tolt River supply. A second ozonation and ultraviolet treatment plant is currently being designed to serve the Cedar River supply.

Not only is SPU optimizing existing water sources through infrastructure improvements, but we are partnering with regional providers to conduct an aggressive program of water conservation and public education that has yielded a 20% reduction in per capita consumption since 1980. These

and other measures will help SPU meet the water needs of the Seattle area's growing population, while also ensuring an adequate supply for fish and protecting essential habitat.

SPU works closely with our 27 regional partners to deliver water services, plan for future needs, and implement conservation programs. In addition, SPU is a member of the Central Puget Sound Water Suppliers Forum, through which major regional suppliers seek to develop sustainable water use plans and collaboratively solve water supply challenges. Only by working together can we develop a comprehensive regional water management strategy that will make the most of our existing resources.



To deliver water from
the mountains to the tap,
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WATER

Accomplishments

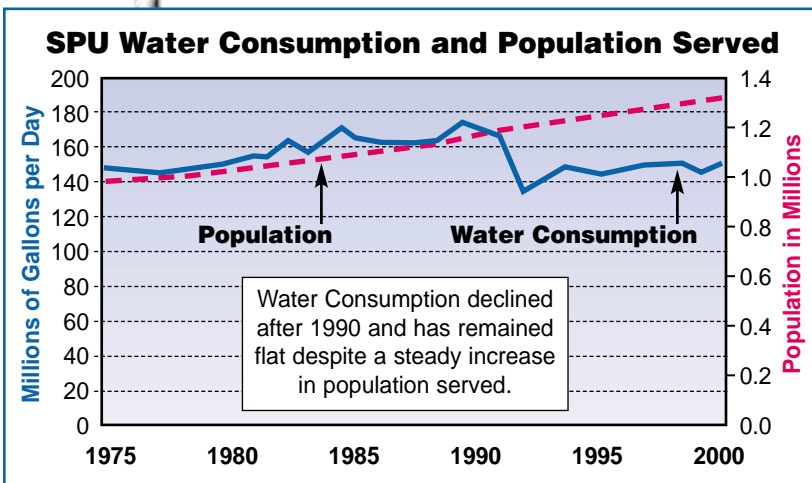
Regional water conservation



The Seattle area receives less rainfall during July and August than Tucson, Arizona, yet these are also the months of highest demand. This annual “drought,” coupled with our region’s dedication to environmental stewardship, has necessitated the development of an aggressive regional approach to water conservation that is recognized nationally for its effectiveness.

sources. If we are successful, in 2010 the region will be consuming the same amount of water that it did in 1980, despite approximately 250,000 additional residents.

Our conservation program is based on a multi-faceted strategy to reduce demand through rate structures, codes and regulations, operational improvements, market transformation, incentives and educational programs. SPU and our regional partners have implemented a number of highly effective and popular conservation programs, including:



Since 1980, regional water consumption has remained the same while the population served has grown by 20%.

SPU has a long history of successful water conservation—since 1980, regional water consumption has remained the same while the population served has grown by 20%. Seattle and its wholesale partners will continue aggressive conservation through a regional campaign to reduce per capita water consumption by 1% each year for the next 10 years. The goal of our 1% conservation program is to meet the water needs of the region’s growing population without having to develop new

Wash Wise

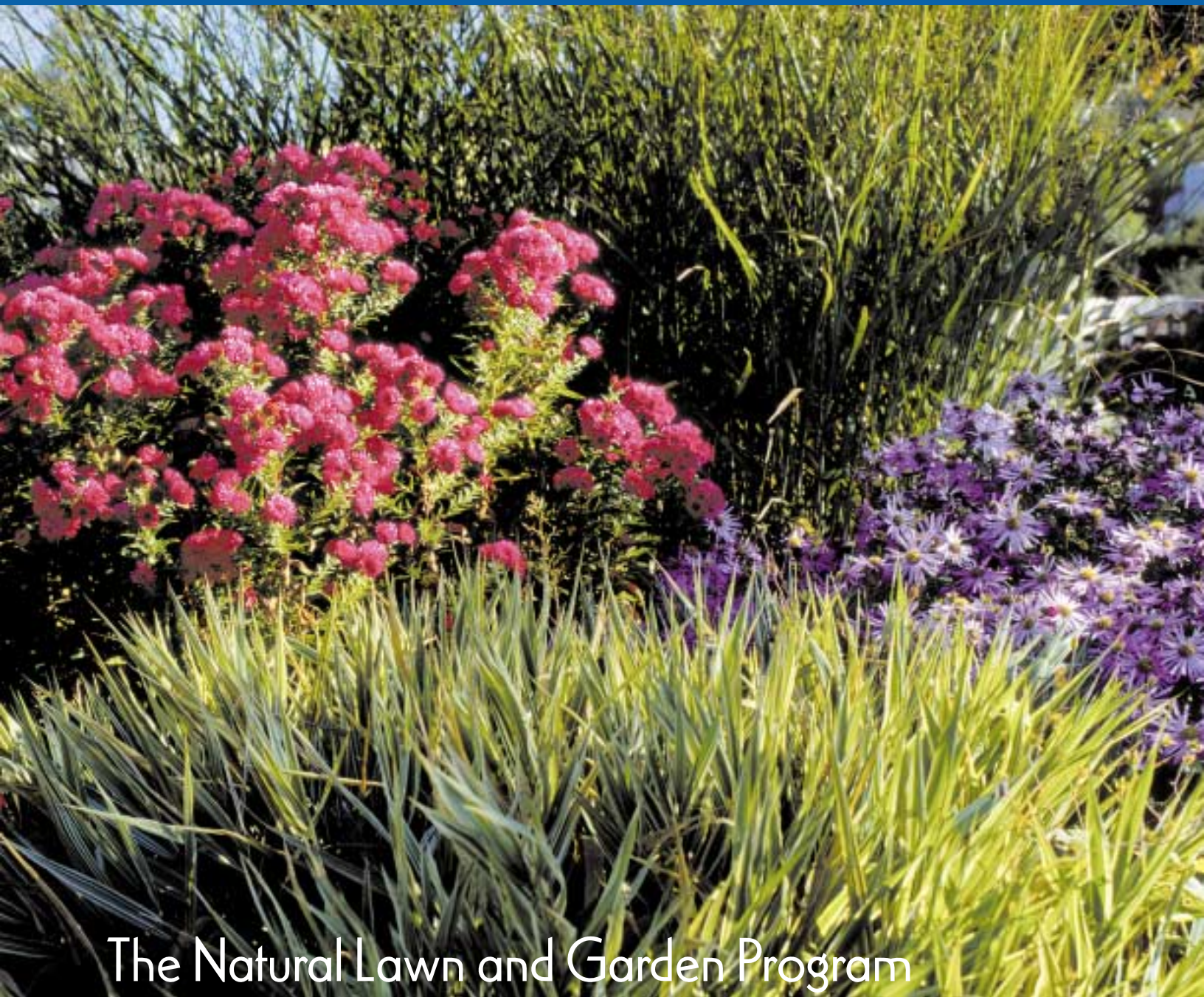
In partnership with Seattle City Light, the program promotes the purchase of high-efficiency clothes washing machines. In the five years since its inception, the program has issued rebates for 20,500 machines, bringing total market share of efficient washers to 27%.

Toilet Roundups

Customers turn in old water-wasting toilets and receive a \$40 rebate for the purchase of a low-flow toilet, which saves an average of two gallons of water with each flush. In 2001, these events brought in 4,600 toilets.

Water Smart Technology Program

More than 550 businesses have implemented water-saving technologies and processes, from low-flow toilets and showerheads to new irrigation and laundry systems—saving almost 100 million gallons per year.



The Natural Lawn and Garden Program encourages “earth-friendly” lawn and garden practices.

WATER



Home Water Savers Program

SPU distributed more than 330,000 shower head kits and 200,000 faucet aerators to residential customers.

The Natural Lawn and Garden Program

The program encourages “earth-friendly” lawn and garden practices through a combined focus on water conservation, solid waste reduction and storm water pollution prevention. A water-saving soaker hose discount program with area nurseries sold more than 4,000 hoses in two months during the summer of 2001.

Protecting and enhancing habitat in the Cedar River Watershed

The Cedar River Watershed, which provides 70% of Seattle’s drinking water, is also home to several species of fish and wildlife that are either already listed as threatened or endangered under the federal Endangered Species Act, are proposed for listing, or could be at risk in the future. In 2000, SPU, Seattle City Light and federal and state agencies completed negotiations on a landmark Habitat Conservation Plan (HCP) for the protection and restoration of all species of concern that may be affected by the operations of Seattle Public Utilities and City Light in the watershed. In exchange for

implementation of the HCP, in 2000 the federal government issued “incidental take permits,” which allow SPU and City Light to continue operations that may affect the covered species. These agreements were the culmination of more than six years of efforts and the beginning of what will be a \$90 million investment (in 2001 dollars) in managing the terrestrial and aquatic resources in the Cedar River Basin.

The year 2001 marks the first year of the planned 50-year commitment to the HCP. The HCP will provide significant benefits for 83 species of fish and wildlife, including four species of salmon and trout. The far-reaching commitments in the HCP include the elimination of timber harvest for commercial purposes, comprehensive habitat restoration, and construction of fish passage facilities near the dam where water is diverted from the river into the supply system, thereby enabling migrating fish to access 17 miles of some of the most protected aquatic habitat in the region. Also important, the HCP commits to binding minimum and supplemental river flows in the Cedar, which will provide better habitat conditions than the previous non-binding minimum flows. The benefits of the HCP for the watershed ecosystem also translate into improved long-term protection of the water supply.

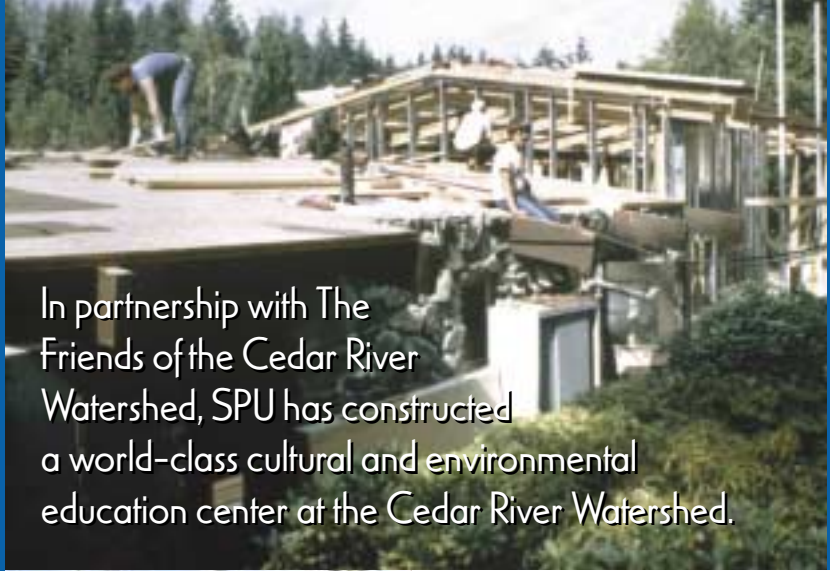
2001
marks the first
year of the
planned 50-year
commitment to
the Habitat
Conservation
Plan.

Building new facilities with a view toward sustainability

SPU strives to plan, build and operate our facilities in a way that reflects our commitment to sustainability. For many water utility projects over the past several years, this has meant citing and designing projects in a way that is sensitive to the surrounding environment, choosing recycled and environmentally sound building materials, and employing the best new resource-saving technologies. These practices not only help protect the environment, but reduce operating costs and provide healthy environments for staff and visitors.

In 2000, the City of Seattle adopted a policy requiring all City of Seattle new construction and major renovation projects to be designed and built in a sustainable manner. Projects are evaluated based on the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Rating System. SPU is incorporating LEED standards into our capital programs and will seek to exceed the minimum required "silver" rating on applicable projects whenever possible. While most of our new facilities have been for the water area of the utility in recent years, future projects in solid waste and drainage and wastewater will also incorporate sustainable building practices.

In partnership with The Friends of the Cedar River Watershed, SPU has constructed a world-class cultural and environmental education center at the Cedar River Watershed.



WATER



Cedar River Watershed Education Center – A world-class resource for environmental education and research

In partnership with The Friends of the Cedar River Watershed, SPU has constructed a world-class cultural and environmental education center at the Cedar River Watershed. The Watershed Education Center expects to host more than 30,000 school children each year and welcome visitors, corporate groups, researchers and scientists from around the world.

The Center is helping visitors understand complex issues surrounding Seattle's drinking water, forests, salmon and wildlife. The facility also houses and displays artifacts and information regarding the 9,400-year history of human activity in the watershed. For more advanced students and researchers, there is a Learning Laboratory to explore the science of the watershed. The Center also hosts conferences, retreats, and programs fostering public interest and dialogue on the challenges of environmental stewardship in the 21st Century.

The Center complex has been built with respect for the natural landscape, an eye to historical forms, and a focus on reducing its environmental impact, thus echoing in design what the Center will achieve through its programs. The Center features certified sustainable lumber, recycled materials, water-saving technologies, and a vegetated roof to improve stormwater management.

Tolt Treatment Facility – Making the most of the Tolt River source

The South Fork of the Tolt River supplies approximately 30% of the drinking water for SPU's retail and wholesale customers. Operational in early 2001, the Tolt Treatment Facility uses ozonation and filtration to improve water quality and ensure compliance with current and anticipated drinking water regulations. In addition, the facility increases reliability and system flexibility by allowing the Tolt supply to be operated over a much wider range of weather and reservoir levels. This additional flexibility on the Tolt system allows SPU to more easily balance use of the Tolt and Cedar systems for water supply in consideration of fisheries management objectives. The facility was sited and designed to minimize impacts on the surrounding wetlands, and the developed areas of the site were replanted with low-maintenance natural landscaping using plants indigenous to the region.

For this project, SPU also employed an innovative Design-Build-Operate (DBO) contracting method, in which a single vendor is responsible for design, construction, and long term operation of the facility. This approach is expected to save an estimated \$70 million over the life of the project.

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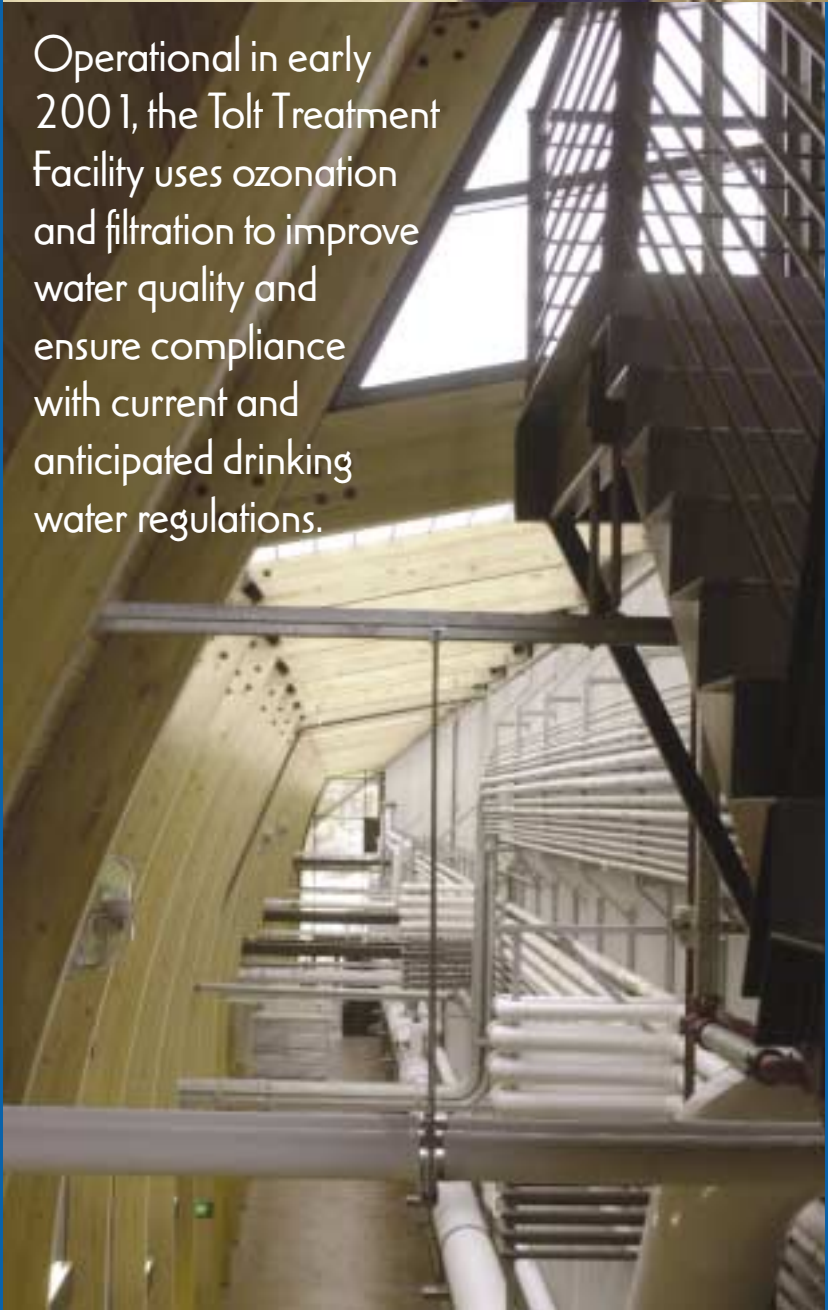
Water Quality Laboratory and Reservoir Covering – Ensuring the highest quality drinking water

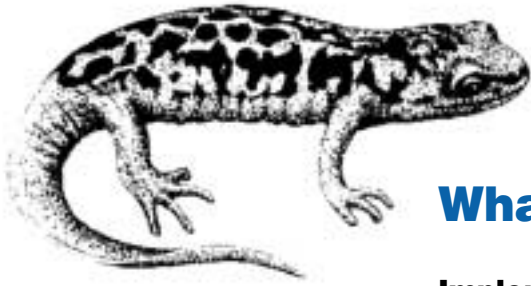
To ensure the safety of our drinking water, SPU has constructed a new water quality laboratory, the largest state-certified water utility laboratory in Washington. The laboratory, built in 2000, was designed to achieve high levels of energy efficiency through a variety of architectural features and innovative technologies.

SPU has also embarked on a program to improve water quality and provide better public health protection by covering all nine of its open drinking water reservoirs over the next twenty years. At the Lincoln Reservoir, the project will create an additional four acres of park space in a densely populated Seattle neighborhood that suffers from a lack of open space. The park's design will integrate historic structures that were built one hundred years ago for the original reservoir. SPU has worked closely with a variety of organizations and City departments, as well as the surrounding neighborhood, to design and raise funds for the new park.



Operational in early 2001, the Tolt Treatment Facility uses ozonation and filtration to improve water quality and ensure compliance with current and anticipated drinking water regulations.





What Comes Next

Implementation of the HCP

The HCP and pursuant agreements represent the cutting edge—regionally and nationally—of applied ecosystem management principles. Within the next year, design for the fish passage facilities will be finalized, and design of a new sockeye salmon hatchery will progress to 60% complete. Other efforts will include road decommissioning, forest restoration work, and stream and riparian improvements. Several monitoring and research efforts that have already begun will continue, and new ones will be started.

Construction of the Cedar River Treatment Facility

SPU is constructing a new state-of-the-art ozonation and ultraviolet water treatment facility on the Cedar River. The facility has been designed as a model of sustainable building, with a variety of features that reduce its ecological footprint. Additional incentives have been offered to the contractor if it is able to attain a “gold” LEED rating. Some of the water-related sustainability features that are currently planned as part of the project include:

- Storm water management using a vegetated “eco-roof” on one of the buildings
- Innovative wastewater management, including use of composting toilets and other water-saving technologies
- Rainwater collection
- Water-efficient landscaping

Similar to the Tolt Treatment Facility, this project uses the Design-Build-Operate (DBO) model, which will save approximately \$50 million over the life of the project.

Water conservation

SPU will continue to implement our 1% water conservation initiative to reduce personal and business water consumption by 1% every year for ten years.

Climate change and water supply planning

Climate change is one aspect of hydrologic uncertainty that may pose a significant challenge to SPU’s operations in the future. In 2001, SPU and the University of Washington will begin a joint project to develop analysis techniques aimed at incorporating climate change information into Seattle’s long-range water supply planning.



The HCP and pursuant agreements represent the cutting edge of applied ecosystem management principles.

Awards

In 2001, the Cedar River Watershed was recognized by the Washington Audubon Society as an Important Bird Area of Washington (IBA). The program identifies specific sites deemed essential to one or more species for breeding, wintering or migration.

American Water Works Association (AWWA) Pacific Northwest Chapter 2001 Water Conservation Awards:

Display and Brochure/Marketing: Salmon Friendly Gardening
Residential Conservation: Seattle Residential End Use
Conservation Study

The Natural Lawn Care program won the Public Relations Society of America's 2000 Silver Anvil Award for Community Relations.

Celesa Brune, Public Education Program Specialist at the Cedar River Watershed, received the 2000 Washington State Environmental Educator Award for a non-formal setting from the Environmental Education Association of Washington.

Ralph Naess, Public Education Program Specialist at the Cedar River Watershed, received the Master Front-Line Interpreter Award from the National Association for Interpretation in 1999. Ralph has received additional recognition from the U.S. Forest Service, Washington State Ecological Council, American Water Works Association, and National Environmental Education Association.

The Public Programs staff at the Cedar River Watershed received the 1998 National Environmental Education Achievement Award for Source Water Education from the National Environmental Education Training Foundation.

Mike Mercer, Water Resource Conservation Educator, received the 1998 Environmental Excellence Award for Community Education from the Association of Washington Business.

The following organizations participating in water conservation programs sponsored by SPU and our regional partners received awards for their outstanding conservation achievements:

AWWA Pacific Northwest Chapter 2001 Water Conservation Awards:

Commercial Conservation: Ivar's Seafood Restaurants
Industrial Conservation: James Hardy Gypsum

AWWA Pacific Northwest Chapter 2000 Water Conservation Awards:

Institutional Conservation: Seattle Public Schools
Irrigation Conservation: City of Shoreline Parks Department

:



RECOVERING THREATENED SALMON RUNS

Salmon are deeply intertwined with our region's identity and spirit. They are also a major indicator of its overall environmental health.

SPU is committed to helping recover sustainable, healthy and harvestable runs of salmon. Our Cedar River Habitat Conservation Plan prohibits logging on 90,000 acres and establishes our commitment to remove logging roads, leave more water in the river for salmon, and purchase downstream properties where habitat is threatened by development. We are also working with other jurisdictions, environmental groups and businesses to identify the main problems that harm salmon throughout the Cedar and Green/Duwamish watersheds.

SPU has also expanded our efforts to protect salmon here in Seattle. Seattle is a gateway for chinook salmon, a species listed as "threatened" under the Endangered Species Act. Juvenile and adult chinook swim through our city every year. Through SPU's water,

drainage, and solid waste lines of business, we have the capability and the opportunity to protect and restore Seattle's salmon habitat. Here are some of our recent accomplishments:

Improving fish passage at the Ballard Locks

SPU worked with the Army Corps of Engineers to make the Ballard Locks safer for juvenile salmon. New diversion slides were installed to pass juveniles over the Locks, instead of through underwater tunnels where they often get injured. Many other improvements were made, and more are planned.

Building the science on salmon in Seattle

Until recently, little was known about how chinook salmon use urban environments. SPU worked with teams of independent scientists to improve our understanding of what chinook do as they move through

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Seattle, and what kinds of habitat they most need. We completed:

- **The Built Environment Study:** SPU managed a comprehensive review of existing research on salmon in the built environment.
- **Research in Lake Washington and Lake Union:** SPU funded two studies investigating the journey that juvenile salmon make from the mouth of the Cedar River to Salmon Bay and their habitat needs.
- **The Urban Blueprint for Habitat Protection and Restoration:** Building on this research, SPU worked with other city departments to prepare a report identifying the kinds of actions we need to take to restore habitat in Seattle.

Adopting best management practices

SPU has improved its pesticide practices to make them more protective of salmon. Soon, we will revise our maintenance practices in the road right-of-way.

Informing our ratepayers

Saving salmon runs will take many, many actions – by organizations like SPU, and also by businesses and individuals. SPU has developed publications, web pages and community-based meetings to inform our customers about actions they can take.

Seattle Public Utilities is
committed to helping recover
sustainable, healthy and
harvestable runs of salmon.



SAVING WATER MAKES GOOD BUSINESS \$ENSE

Hundreds of Seattle-area businesses of all sizes have found that investing in conservation measures can save them serious money. Through the Business and Industry Resource Venture (BIRV), the Greater Seattle Chamber of Commerce and Seattle Public Utilities (SPU) provide free comprehensive information and assistance to help businesses conserve water, reduce waste and recycle, prevent stormwater pollution, and implement sustainable building practices.



With the help of rebates and other financial incentives, such investments often pay for themselves in only one or two years.

As part of this program, SPU and 25 water utility partners offer the Water Smart Technology Program, which provides technical assistance and financial incentives to commercial customers for projects such as replacing washing machines and toilets with water-saving models, improving irrigation systems, and implementing water re-use strategies. With the help of rebates and other financial incentives, such investments often pay for themselves in only one or two years.

In just one month, the Washington Athletic Club found out how much simply replacing shower heads can save: 9,000 gallons of water per day and \$3,630 in monthly water

costs. Modifying laundry operations are projected to save the Club another \$40,000 per year in water, sewer, steam and chemical costs.

The Hospital Central Services Association (HSCA), which processes more than twenty million pounds of laundry each year for eleven area hospitals, found that new technology could reduce water use by 60% from amounts already below industry standards. HSCA became the first industrial laundry to install a high-tech filtration process called Vibratory Shear Enhanced Processing (VSEP) and began saving up to 60,000 gallons per day and \$150,000 in annual water and sewage charges. The system also had the ancillary



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benefits of improving the quality of the wash process and saving energy. With incentives offered by SPU, the project paid for itself in just over one year. HSCA was awarded the 1999 Water Conservation Award from the American Water Works Association, and its successes have spurred interest among other laundry facilities.

Many other large commercial water customers have taken significant water conservation measures in response to Mayor Schell's call to reduce water use by ten percent during this year's drought, and at least 550 business of all sizes have participated in SPU's water conservation programs over the past five years. In 2000 alone, participating businesses saved more than 95 million gallons of water and reduced their water and sewer bills by a total of \$750,000.

For more information, see the Water Smart Technology website at www.ci.seattle.wa.us/util/RESCONS/wst/; and the BIRV website at www.resourceventure.org.



DRAINAGE AND WASTEWATER

What We Do

Seattle Public Utilities (SPU) provides drainage services to address storm water quantity and quality within the Seattle city limits. The goals of our drainage program are to prevent flooding, reduce contamination of surface water, and protect and restore habitat in the urban creeks that serve as part of the City's natural drainage system.

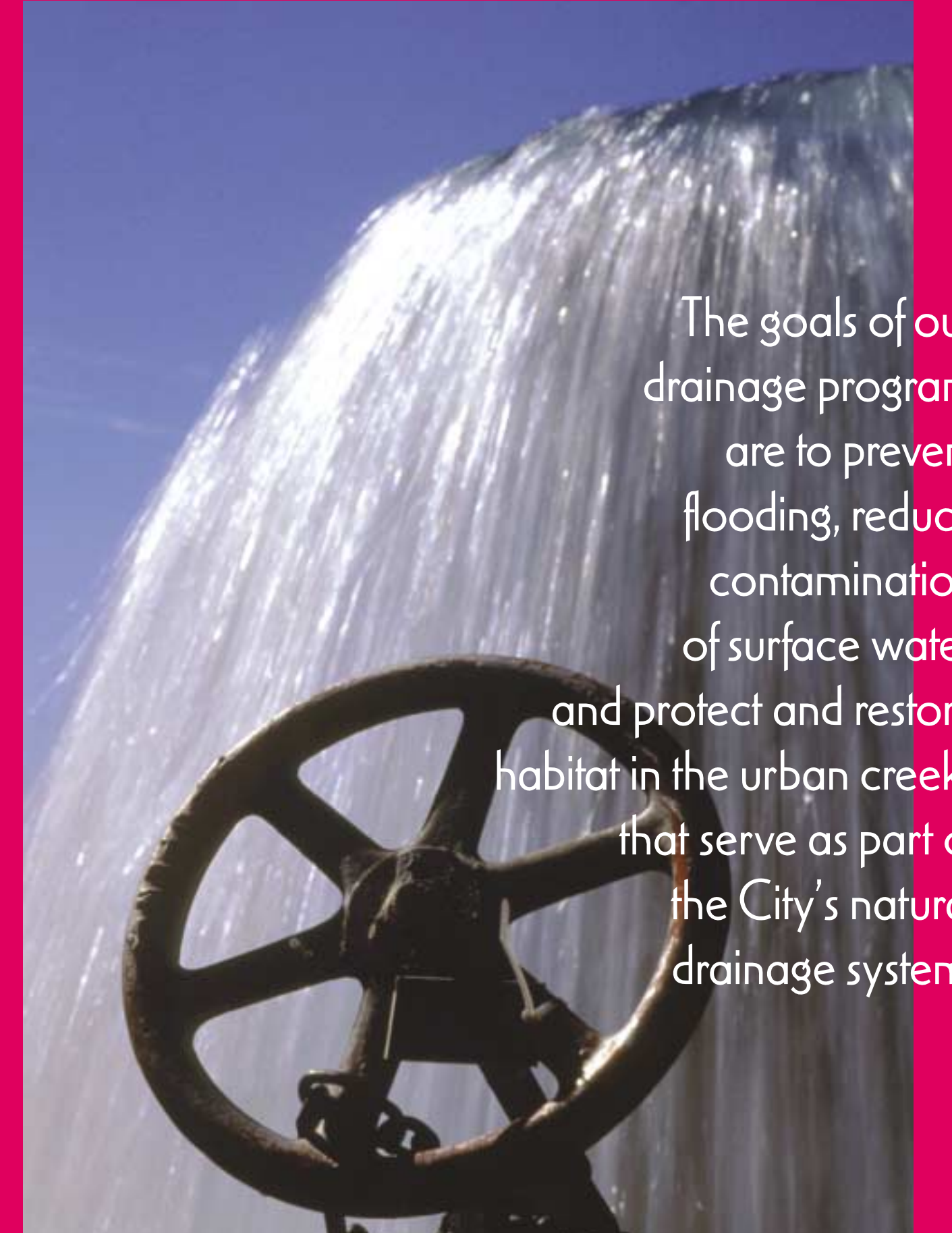
SPU also maintains and operates Seattle's wastewater (sewer) pipes and pump stations in order to protect public health and the environment and prevent property damage. Treatment of the sewage is performed at plants owned by King County, which bills SPU for services

provided. After being treated, wastewater is discharged into our lakes and Puget Sound. Approximately 29% of the sewer pipe system accepts both wastewater and rain water in a combined system which poses some significant environmental challenges.



SPU has begun to implement "natural system" solutions to managing storm water.





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drainage system.

DRAINAGE AND WASTEWATER

Accomplishments

Natural systems approach to drainage

Almost half of Seattle is covered by impervious surfaces—streets, sidewalks, parking lots. Rain that falls on impervious surfaces, or even landscaped areas without a natural accumulation of mulch, runs downhill much more quickly, causing flooding and erosion and leaving little natural flow in creeks during dry periods. Runoff from developed areas also picks up contaminants along the way. Controlling this enormous amount of water and improving its quality remains the biggest challenge for protecting Seattle's water bodies and aquatic habitat.

To meet this challenge, SPU has begun to implement “natural system” solutions to managing storm water. This approach brings us closer to nature's own way of storing and filtering water—an approach which not only mitigates flooding and improves surface water quality for human recreation, but supports the ecological systems that sustain fish and other wildlife. This integrated thinking has resulted in several innovative solutions to flooding and habitat restoration, while creating opportunities for community stewardship and environmental education.

Restoring our urban creeks

Since the early 1980's, SPU, Seattle Parks and Recreation and Seattle Transportation have been working in partnership with the

City's neighborhoods and schools to improve water quality and restore habitat in the urban creeks that serve as part of Seattle's storm water drainage system. This effort grew into the Urban Creeks Legacy program, which was one of the highlights of Seattle's Millennium Celebration. More than \$15 million was earmarked to restore creek drainage and habitat in the City's four largest creek systems.

Numerous stewardship activities and celebrations have inspired citizens to learn about and help rebuild their neighborhood creeks by planting trees, removing invasive plants, and clearing litter from creeks. Five thousand people participated in “Creek Week” activities, and hundreds of community volunteers continue to help with ongoing efforts. Improvements have included reconstructing streambeds, planting native vegetation, stabilizing banks, and building detention ponds to control high stormwater flows.

SPU is also monitoring the condition of six urban watersheds through field surveys of fish distribution, spawning, barriers, and habitat. The monitoring team also evaluates completed in-stream restoration projects in order to help guide future investments in urban creeks. To date, five major barriers to fish migration have been removed and more than one linear mile of creek habitat has been restored. In West Seattle's Fauntleroy Creek, salmon now spawn again for the first time in sixty years!



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A new street design improves the local environment

SPU collaborated with Seattle Transportation and three blocks of residents in north Seattle to create the Street Edge Alternative pilot project (SEA Street), an innovative street design that calms traffic while improving drainage and benefiting the local environment. Storm water on this street is filtered through landscaped areas along the road edge so that it drains more slowly into a nearby creek. New sidewalks, trees and plants, along with slower automobile traffic, also make this street more inviting for pedestrians. This is the first integrated street design project of its kind in the country.

Meadowbrook Pond – a refuge in the city

The construction of Meadowbrook Pond transformed an abandoned lot adjacent to a creek into a storm water storage and flood control area that is also refuge for humans and wildlife alike. With major input and support from the local community, SPU designed the site to integrate habitat improvements, artwork, and education and stewardship opportunities. Meadowbrook Pond has become one of Seattle's most beloved natural sites, with neighbors visiting daily to keep a close eye on a resident beaver family and the yearly migrations of fish.



The
Street Edge
Alternative pilot
project calms
traffic while
improving
drainage and
benefitting
the local
environment.



Citizens can safely enjoy fishing, swimming and boating in our lakes and Puget Sound.

Improving the health of our waters

Reducing combined sewer overflows

One measure of Seattle's environmental quality is the fact that citizens can safely enjoy fishing, swimming and boating in our lakes and Puget Sound. The quality of our surface waters is sometimes marred when heavy rains cause untreated wastewater to be spilled into our waterways—events called Combined Sewer Overflows, or CSOs. Seattle's efforts over the past thirty years have already reduced the number of CSOs by 90%, and in 2000 SPU initiated a major program of monitoring and capital improvements to further reduce CSOs to an average of one per year per outfall point by 2020.

Rehabilitating an aging sewer system

SPU has also increased funding, from \$4 million to \$10 million per year, to replace old sewer pipes. SPU is protecting our lakes and Sound by fixing these old pipes before they fail and cause sewer backups and overflows.

What Comes Next

Meeting the challenges of drainage in an urban environment

Drainage programs over the next several years will seek new ways to effectively manage the rain water that falls on our streets and rooftops in ways that protect both human health and the environment. A good measure of our success will be the quality of the water in our lakes, creeks and Sound, as well as the number and variety of species that can successfully call these water bodies home – from the smallest aquatic insect to our amazing chinook salmon.

Develop a city-wide water reuse policy

Another challenge ahead is to find ways to use our water resources more efficiently. SPU is researching safe and effective ways to reclaim and reuse wastewater and storm water for activities such as irrigation that currently use drinking water.

Duwamish River cleanup

SPU has joined forces with King County, the Port of Seattle, and Boeing Corporation to plan a cleanup of contaminated sediments in the Duwamish River. An investigation of the lower six miles of the river is currently underway to identify sites where cleanup actions are needed. This is being done as part of a voluntary agreement with U.S. Environmental Protection Agency and the Washington Department of Ecology.

Awards

SEA Street Project won the American Society of Civil Engineers (ASCE) Seattle Section's 2001 Outstanding Project Award for transportation engineering.

Urban Creeks Legacy-Longfellow Creek Project won the ASCE Seattle Section's 2001 Outstanding Project Award for water resources engineering.

The Urban Creeks Legacy 2000 Calendar won two regional Excellence in Communication awards from the American Water Works Association, including Best of Show.

"Longfellow Creek, An Urban Legacy" won first prize in the Documentary Profile division at the Alliance for Community Media's Hometown Video Festival in 2000.



Numerous stewardship activities and celebrations have inspired citizens to learn about and help rebuild their neighborhood creeks.

SOLID WASTE

What We Do

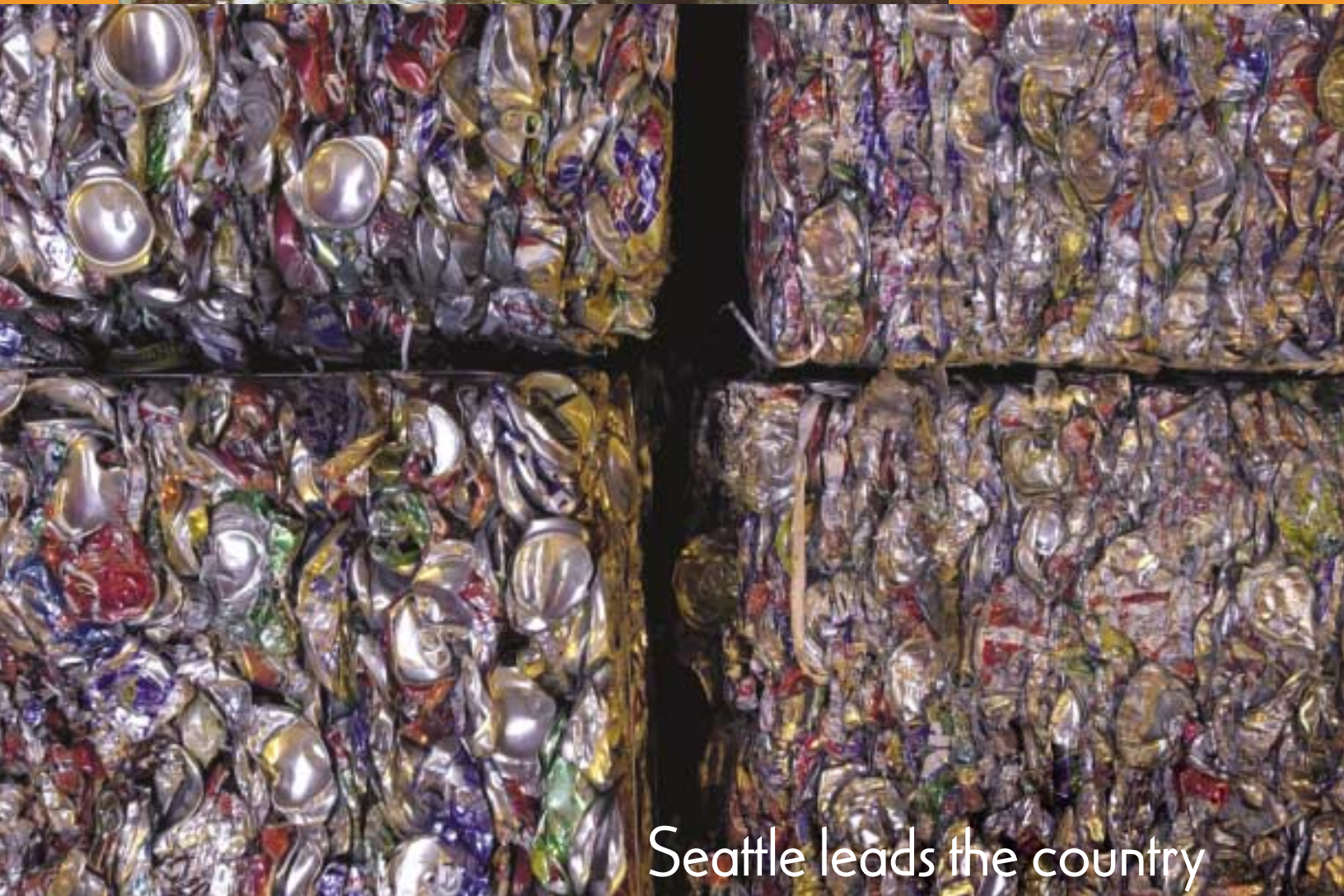
Seattle Public Utilities (SPU) contracts for and manages Seattle's garbage, yard waste and recycling services and operates two transfer and collection stations. Private companies contracting with SPU provide garbage collection services to 148,500 residential accounts and 10,000 commercial accounts, as well as recycling and yard waste service to residential accounts. Seattle's garbage is compacted and shipped by rail to a private landfill in eastern Oregon, while recycling and yard waste go directly to local processing facilities. SPU also operates two household hazardous waste sheds and supports Seattle neighborhoods with litter collection, community clean-up and graffiti removal services.

One of the overarching goals for managing Seattle's solid waste is to close the loop, converting waste into resources. Seattle already leads the country in recycling, with 44% of its waste recycled or composted, and SPU continues to implement new programs aimed at reaching the city's recycling goal of

60% by 2008. Recognizing that making less waste in the first place is the least expensive and most environmentally sound option for managing the waste stream, SPU is also leading a variety of efforts to reduce waste, improve product stewardship, and promote sustainable building practices.



Making less waste in the first place is the least expensive and most environmentally sound option for managing it.



Seattle leads the country in recycling and one of the goals for managing Seattle's solid waste is to close the loop, converting waste into resources.



SOLID WASTE

Accomplishments

Enhanced residential recycling

Seattle continues to be a leader in recycling. In 2001, SPU implemented new recycling contracts and expanded the materials collected, while increasing the customers served. Residents can now recycle most types of paper and containers, including polycoated paper and most plastic tubs, jars and bottles.

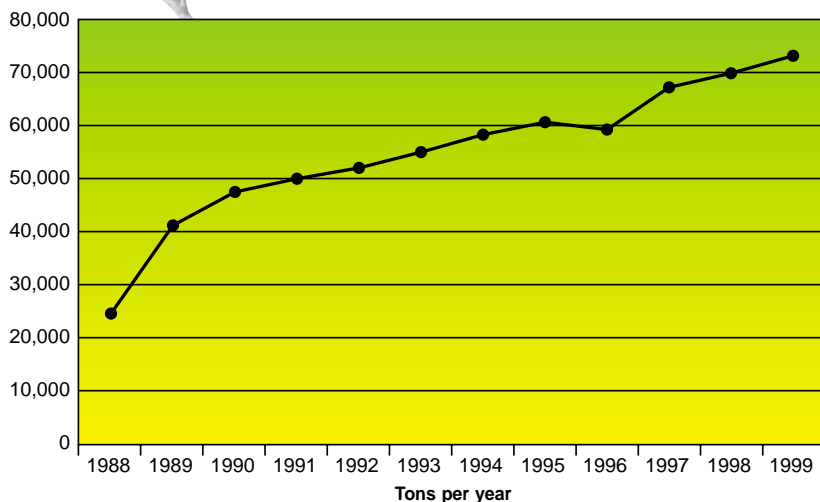
Nearly all residential households now participate in curbside recycling. Under the new expanded services, recycling carts were distributed to all garbage can customers, regardless of past participation. SPU is also increasing apartment and condominium recycling by offering financial incentives to building owners and collectors that initiate service. Seventy percent of apartment households now have access to recycling services. Residential collection has also been made available to small business that might have difficulty acquiring affordable commercial services.

Improved incentives for organic waste reduction

SPU's first priority in solid waste management is to encourage waste reduction and reuse. SPU has instituted programs and incentives to encourage backyard composting as a more resource-efficient alternative to curbside yard waste service. In 2000, we became one of the first major urban utilities to introduce a variable rate for yard waste. SPU and other regional agencies have also partnered to distribute more than 14,000 mulch mowers in the past four years, and more than 60,000 compost bins in the past twelve years. Thanks to these programs, 50% of Seattle residential customers now report that they compost yard and/or food waste, and 55% do some grasscycling.



Seattle Curbside and Apartment Recycling



Households with Grasscycling or Backyard Composting

	1995	2000
Grasscycling	28,000	59,000
Yard waste composting	64,000	72,000
Food waste composting	39,000	49,000

Commercial collection contracts save resources

In April 2000, SPU initiated new contracts that improve the efficiency of commercial garbage collection. In the past, two commercial waste haulers provided collection services throughout the City, often resulting in two different collection trucks servicing the same block. Under the new contracts, each company will collect from consolidated service areas. The efficiency improvements mean lower costs to customers and reduced environmental impacts:

- Fewer garbage trucks and less congestion on Seattle's streets
- 500,000 less miles driven by garbage trucks annually
- Reducing CO2 greenhouse gas emissions by 1120 tons each year

Public-private partnerships focus on product stewardship

SPU is leading the way to encourage "upstream" waste generators, particularly manufacturers and retailers, to reduce the environmental impacts of their products. SPU helped create the Northwest Product Stewardship Council (NWPSC), a group of government agencies and nonprofit organizations working together with businesses to reduce the volume and toxicity of waste. Programs have focused on retail apparel and grocery products, computers, tires and medical waste.

Outcomes of this work include:

- Packaging waste reductions at local retail companies
- Regional and national commitments from computer manufacturers and recyclers
- The nationally-distributed "Guide to Environmentally Responsible Computer Purchasing"
- State legislative initiatives on tire recycling

To facilitate reuse and recycling of used computers, SPU collaborated with King County to create the Computer Recovery Project, a network of thirty computer resale businesses and charities that accept unwanted computers for repair or recycling. More than 1000 broken computer monitors, each of which contains several pounds of lead and other hazardous materials, have been turned in to be recycled.



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What Comes Next

Less recyclables in the garbage

Many “recyclables” are still getting thrown in the garbage. Even with our renowned recycling success, more than 150,000 tons per year of materials that currently go into the garbage could be recycled in existing recycling programs. Most of this is paper and cardboard. SPU will focus on effective outreach methods to encourage residents and businesses to divert more recyclables from the waste stream, including efforts to increase recycling in public places.

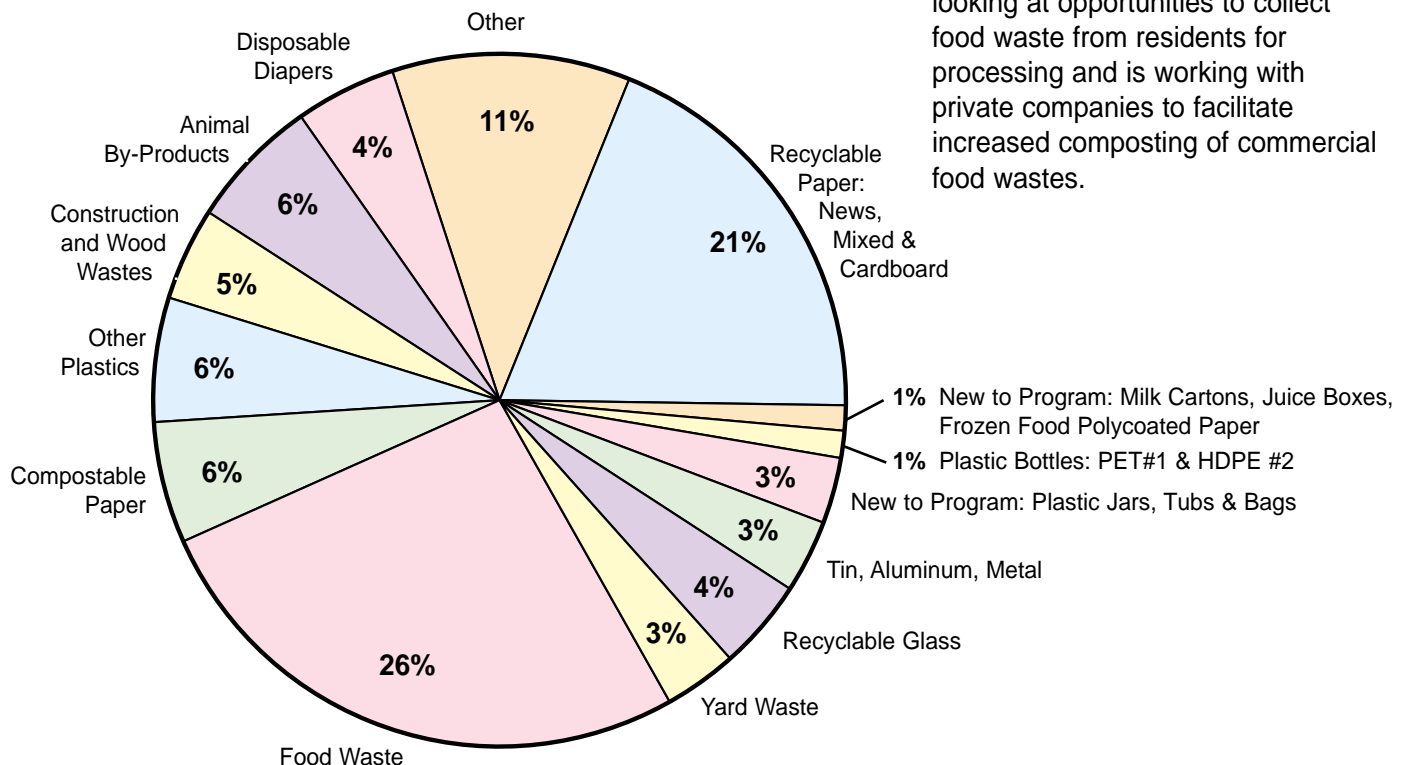
Increasing opportunities for self-haul recycling


Currently only 18% of the materials from residents and business that bring their own wastes to SPU's transfer stations are recycled. SPU has initiated a major facilities planning process to help create more convenient, affordable and cost-effective opportunities for self-haul recycling. As part of this planning process, SPU will also consider ways to reduce the environmental impact of collecting and transporting waste.

The next big piece: food waste

More than 100,000 tons of food waste and compostable paper are thrown out each year, but these materials can be composted and used as soil amendment. SPU is looking at opportunities to collect food waste from residents for processing and is working with private companies to facilitate increased composting of commercial food wastes.

Residential Waste Stream Composition





SPU is leading the way to encourage “upstream” waste generators, particularly manufacturers and retailers, to reduce the environmental impacts of their products.

Awards

The Recycling 2000 Campaign received the 2001 Silver Anvil award for Excellence in Integrated Communications from the Public Relations Society of America.

The Salmon Friendly Gardening brochure and display received the Washington Native Plant Society's gold award at the 2000 Northwest Flower and Garden Show.

The Natural Lawn Care Program received the 2001 Silver Anvil award for Excellence in Community Education from the Public Relations Society of America.

Carl Woestwin and David McDonald, Landscape and Sustainable Building Team, received the 2000 Soil Stewardship Award from the Washington Organic Recycling Council.

The Mowers for Less Sales received the 1999 Silver Anvil award for Excellence in Special Events from the Public Relations Society of America.



INTEGRATED ENVIRONMENTAL PROGRAMS

What We Do

Seeking to become more sustainable requires Seattle Public Utilities to take both the broad view of the environmental interconnections among our various services, as well as a close-up view of our day-to-day business operations. In practice, this means developing integrated conservation initiatives and messages that cross SPU's lines of business and link to the work of other city departments. It means identifying sensitive natural resources impacted by SPU's activities and mitigating or managing impacts. It also means educating citizens about our region's resources and providing opportunities to help protect them. And it means modeling environmentally sound business practices at all levels of the utility. Below we outline several integrated environmental initiatives aimed at enhancing SPU's overall sustainability and our role as a steward of the region's environment.

Accomplishments

Integrated Conservation Outreach

Integrating conservation messages across SPU's lines of business and with other City departments creates synergies and the potential for greater savings than independent messaging. For example, SPU's Natural Lawn and Garden Program provides residents with comprehensive information, assistance and incentives to help them be effective stewards of water and land resources through appropriate landscape practices. Over half of Seattle's households now practice some form of natural lawn and garden care.

In an effort to offer integrated conservation assistance to the business community, in 2000 SPU partnered with the Greater Seattle Chamber of Commerce to expand the scope of the Business and Industry Resource Venture (BIRV). After successfully focusing on solid waste management for ten years, the BIRV now provides free information and assistance to help businesses save water, reduce storm water pollution, reduce waste and increase recycling, and employ sustainable building practices. The BIRV also offers referrals on other issues such as hazardous waste management, energy conservation, and transportation choices.

It means modeling environmentally sound business practices at all levels of Seattle Public Utilities.



The Business and Industry Resource Venture now provides free information and assistance to help businesses save water, reduce storm water pollution, reduce waste and increase recycling, and employ sustainable building practices.

INTEGRATED ENVIRONMENTAL PROGRAMS



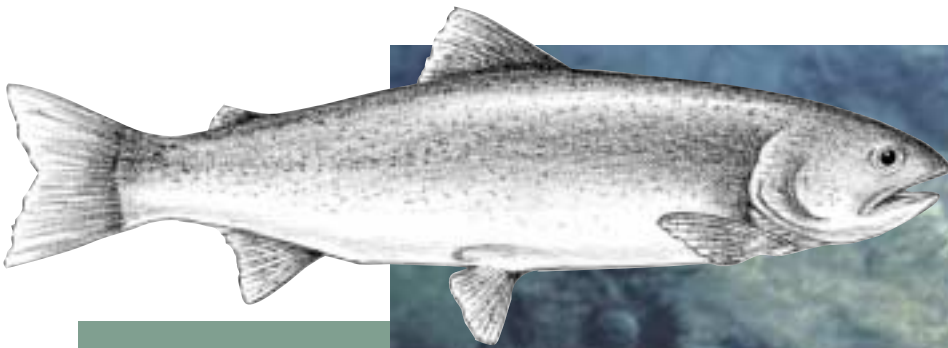
Through the efforts of the BIRV and SPU, more than 80% of Seattle businesses now have recycling services and nearly half of the commercial waste stream is diverted through recycling programs. Major water savings have also been realized by businesses participating in these programs, and we continue to seek progress in sustainable building and storm water pollution prevention as well.

Environmental Education and Community Activism

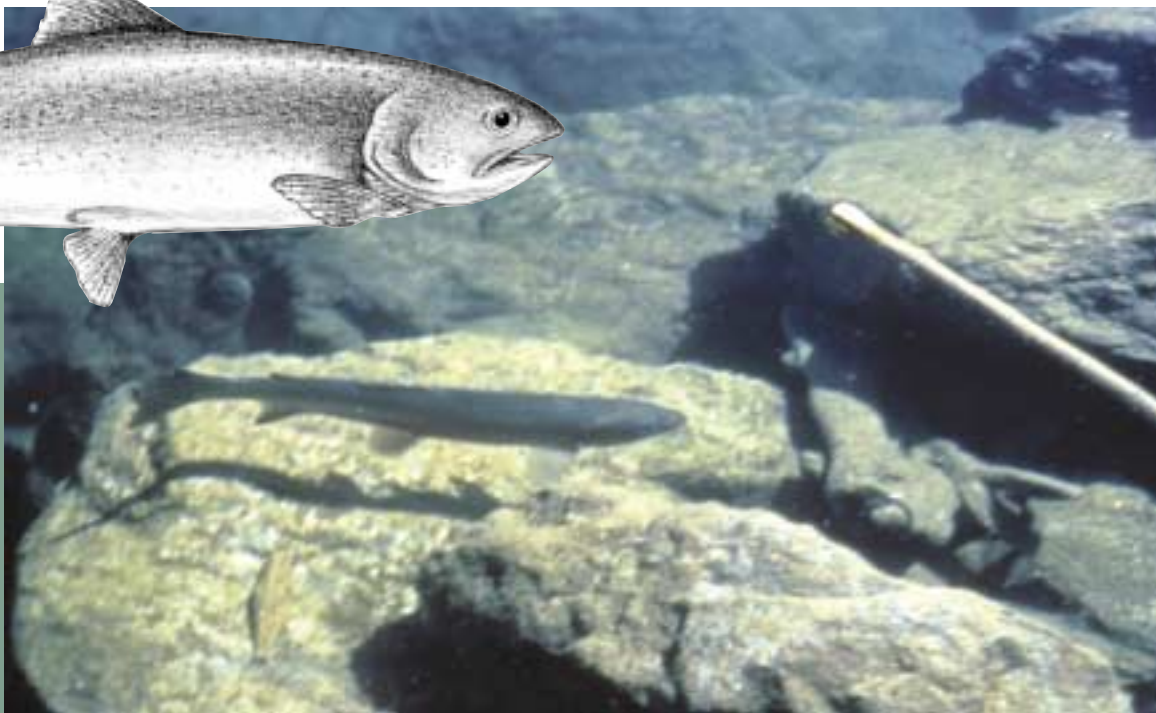
SPU provides a host of opportunities for citizens to learn about environmental issues and become active stewards in their communities. SPU's web site is a clearinghouse of information for citizens looking to save water, reduce waste, care for their gardens naturally, learn about the region's natural resources and get involved. Community events such as our

toilet round-ups, compost bin sales and re-use events help citizens turn this information into action. SPU also works with local schools to enhance environmental education by providing curricular materials for teachers, field trips and service learning opportunities such as raising juvenile salmon to release into our urban creeks.

To encourage community involvement, SPU's Grant Central Station program awards more than \$200,000 each year to community groups and schools engaged in neighborhood improvement projects, waste reduction, recycling, graffiti and litter removal, and surface water protection. Through other popular SPU programs such as Adopt-A-Street and the Urban Creeks Stewardship Program, thousands of volunteers become directly involved in improving the local environment.



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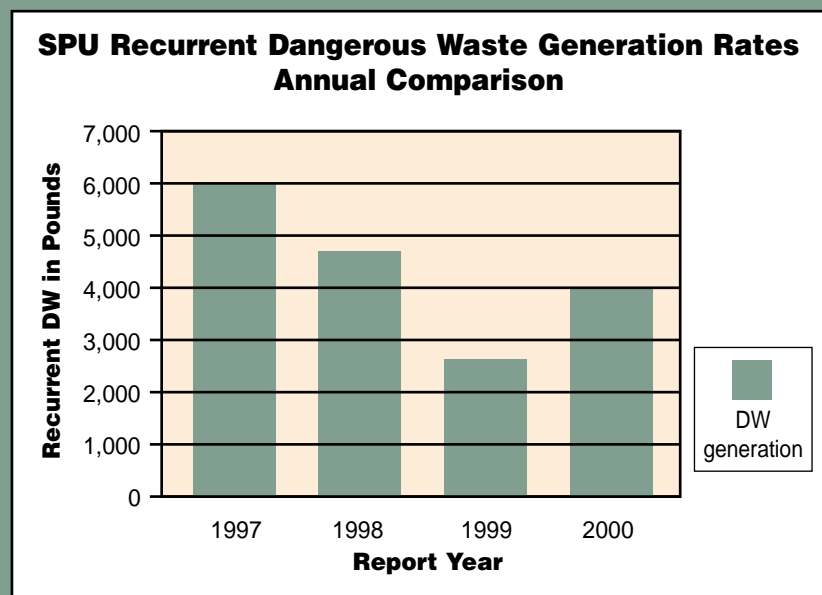
Reducing SPU's Hazardous Waste

SPU has been working to reduce hazardous wastes created at our own facilities through improved efficiencies and revised operations. As seen in the accompanying chart, SPU's overall dangerous waste generation rates have drastically decreased in recent years, primarily due to each facility's continued participation in waste reduction activities. The slight peak in 2000 reflects the one-time disposal of old or no longer used hazardous products from facility inventories. On a site-specific basis, however, the trend has been downward.

We continue to focus our efforts on pollution prevention activities such as source reduction, safer product substitution, and innovative reuse and recycling options that can dramatically reduce the rate of waste generation. For example, in 2000 SPU held a roundup and exchange of excess re-useable hazardous products from SPU facilities, which has resulted in 15,440 pounds of products being re-used by the public to date.

Improving Compliance with Environmental Regulations

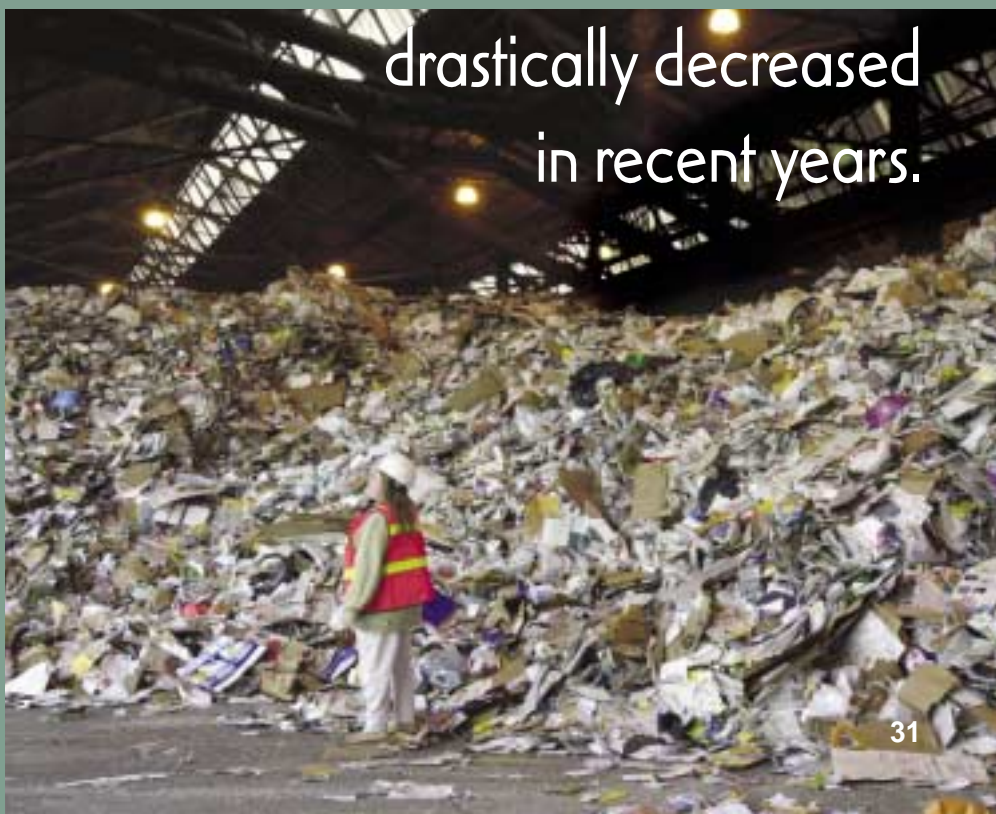
2000 marked the first year of SPU's biennial environmental compliance audit program for major facilities. This program assesses SPU's



success in complying with a wide range of local, state, and federal environmental regulations that apply to our facilities and operations. Audit teams identify potential compliance problems in order to provide facility managers with a roadmap to improved environmental performance. In 2000, SPU audited five facilities. Eight more facilities are being audited in 2001, completing the first biennial cycle. In addition, SPU assisted Seattle City Light in auditing three of its major facilities.

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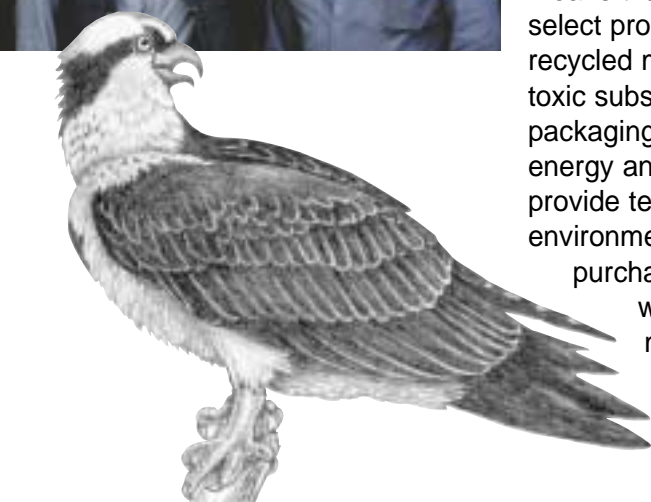


What Comes Next

Environmentally responsible purchasing City-wide

Environmentally responsible purchasing has been adopted as a policy for all City departments. This means that the City is working to select products that last longer, use recycled materials, contain fewer toxic substances, require less packaging, and consume less energy and water. SPU will provide technical staffing to assist environmentally responsible purchasing City-wide by

working with interdepartmental purchasing teams, assessing products and environmental factors, and helping users.



Development of an Environmental Management System

SPU will create a set of management processes and procedures to allow SPU to analyze, control, and reduce the environmental impact of its activities and continually improve its environmental performance. This includes the establishment of measurable performance indicators and targets, operational controls, and compliance audits.

Waste reduction

SPU will expand and integrate programs for chemical purchasing, chemical substitution, pollution prevention and waste reduction.

Environmental Quality in Construction

The program will enhance environmental performance during the construction phase of capital improvement projects through systematic improvement in specification development, contractor education, project coordination and liaison, and field supervision.

Environmentally responsible purchasing has been adopted as a policy for all City departments.